

REMARKS

This is a response under 37 C.F.R. § 1.114 to the Office Action mailed January 23, 2003 in the parent application.

In that Office Action claims 3 - 16 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite because they depend from claim 2, which was cancelled.

Applicants have corrected this problem by amending claims 3 and 6 so that they are dependent from claim 1, claims 4 and 5 being dependent from claim 3 and claims 7 - 16 being dependent from claim 6.

Claims 36, 38 - 39 and 42 - 43 were withdrawn as "[n]ewly submitted" claims "directed to an invention that is independent or distinct from the invention originally claimed." However, claim 36, from which claims 38, 39, 42 and 43 depend, was an original claim. Therefore, Applicants traverse this restriction because it is based on an incorrect premise.

Claims 1 and 17 - 32 were rejected under 35 U.S.C. § 103(a) as being unpatentable over (1) Kokubo U.S. Patent No. 5,530,456 ("Kokubo") in view of Nolte et al. U.S. Patent No. 6,342,721 ("Nolte"), and (2) Bidiville et al. U.S. Patent No. 5,288,993 ("Bidiville") in view of Nolte. Claims 17 - 32 are all ultimately dependent from claim 1.

Claims 34 and 45 were rejected under 35 U.S.C. § 102(e) as being anticipated by Piot et al. U.S. Patent No. 6,256,016 ("Piot"). Claim 45 is dependent from claim 34.

Claims 35, 44 and 46 - 48 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Bidiville in view of Piot. Claim 44 is dependent from claim 35. Claims 46 and 48 are independent, and claim 47 depends from claim 48.

The devices and methods described and claimed by Applicants all operate on a principle whereby a random irradiance pattern of light reflected from the hand of a user onto a photo-emf sensor moves in the direction of the movement of the hand when it is moved so as to produce an

output signal from the sensor that is related to the change of the pattern, rather than the position of the pattern. In a more specific embodiment, the light source is coherent, or at least partially coherent, so that the pattern at the sensor is an interference pattern, that is, a speckle pattern.

Thus, independent claim 1, for example, calls for:

"a sensor for receiving from the moving reflecting surface a corresponding moving pattern of light and producing a sensor electrical signal related to the movement of said pattern, said sensor comprising a photo-emf material having a plurality of electrodes disposed thereon for detecting electrical current caused by differential emf generated by the motion of said pattern received by said sensor."

Independent device claims 34 and 35 have similar limitations.

Independent claim 46 calls for:

"a sensor having the physical property that, in response to said changing distribution of irradiance, it will produce a sensor electrical signal representative of the change in said distribution of irradiance."

Independent method claim 36 now includes the step of:

"producing a sensor electrical signal related to said changing distribution of irradiance for controlling an apparatus by detecting a differential emf in a material illuminated by said changing distribution of irradiance."

Independent method claim 48 now includes the step of:

"producing a sensor electrical signal responsive to said changing distribution of irradiance for controlling the apparatus by causing said changing distribution of irradiance to illuminate a material having the physical property that, in response to said changing distribution of irradiance, it will produce a sensor electrical signal representative of the change in said distribution of irradiance."

In contrast, Kokubo, Bidiville and Piot all operate on entirely different principles. First, they are imaging systems; that is, they require a lens for producing at the sensor an image of the object surface illuminated by the light source. Applicants' invention may include, but does not require, a lens.

Second, Kokubo, Bidiville and Piot require the use of a sensor that produces a signal representative of the position of the image, rather than a signal representative of the direction change of a light pattern. Kokubo, Bidiville and Piot all require some computational analysis of image positions. Applicants' device and method does not require or use such analysis because the sensor itself has the physical property that it produces a signal representative of the change in irradiance distribution which illuminates it.

In view of the amendments to claims 34 and 35, those claims cannot be anticipated by Piot. This is because claims 34 and 35 both require a photo-emf sensor, which is not used in Piot.

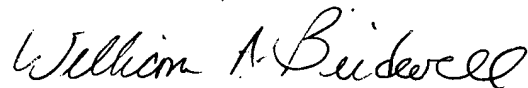
Although Nolte discloses a photo-emf detector, there is no suggestion that such a detector be combined with any of Kokubo, Bidiville and Piot. First, Kokubo, Bidiville and Piot teach away from Applicants' invention by teaching the use of image position analysis, rather than motion generated differential EMF. This alone defeats the assertion of obviousness. "It is improper to combine references where the references teach away from their combination." MPEP § 2145 X. D. 2. At least as importantly, the proposed modification of Kokubo, Bidiville and Piot by using "Nolte's photo-emf sensor in [Kokubo's or Bidiville's] device as the sensor," Office Action at pages three and five, would alter the principles on which those devices operate. The same can be said with respect to the Piot device. The MPEP is clear: "If the proposed modification of the prior art would change the principle of operation of the prior art invention

being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious." MPEP § 2143.01.

Nor does it make a difference that Nolte purports to disclose a "photo-EMF device that [has] improved responsivity at constant power and detection area without the need to focus tightly." Nolte at column 1, lines 61 -65, and Office Action at pages 3 and 5. This statement simply addresses the improvements to photo-emf devices provided by the Nolte reference; it does not suggest that the principles on which the Kobuko, Bidiville and Piot devices operate should be discarded in favor of some other principle.

Accordingly, the Examiner is requested to enter these amendments prior to examination of this application, reconsider the previous rejections, allow all of these claims and pass this case to issue.

Respectfully submitted,

A handwritten signature in cursive script, reading "William A. Birdwell".

William A. Birdwell
Of Attorneys for Applicants